

# Federal Energy Management Program

U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

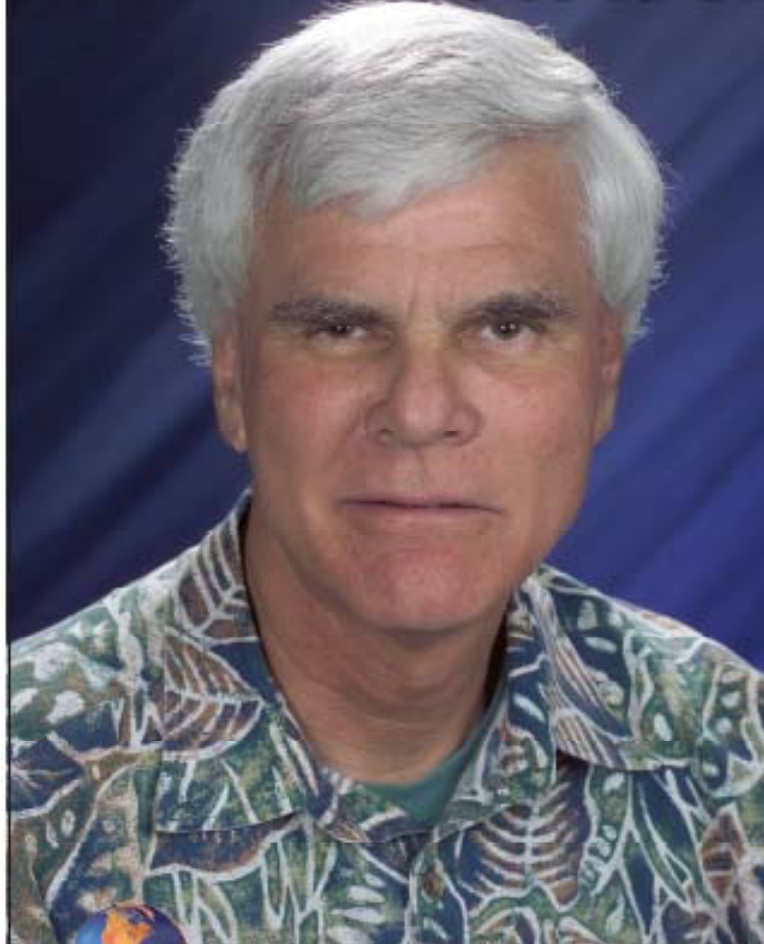


## FUPWG Fall 2009

*November 18 & 19, 2009*  
*Sailing into Energy Efficiency*

David McAndrew  
**FEMP** Utility Program  
Federal Energy Management Program

# Leader



EXEMPLARY TWENTY-FIRST CENTURY CITIZENSHIP is being championed by energy program managers like Bill Sandusky of Pacific Northwest National Laboratory who – by leading critical alternative financing projects; coordinating important research activities in support of energy efficiency and renewable energy; and accelerating the implementation of Super Energy Savings Performance Contracts and Utility Energy Service Contracts – is helping to stimulate markets for new technology, increase energy security, and protect the environment for Federal agencies, state and local governments, and the nation.



**YOU HAVE  
the POWER™**

United States Department of Energy  
Federal Energy Management Program

For more information on how you can get involved in the  
YOU HAVE the POWER campaign, visit the FEMP Website at [www.energy.gov/femp](http://www.energy.gov/femp)



# Leader



TWENTY-FIRST CENTURY CITIZENSHIP is being exemplified by contracting officers like Ed Thibodo of the Naval Facilities Engineering Command SW who – by developing and implementing Utility Energy Services Contracts (UESCs) at West Coast Navy facilities over the past 15 years – has awarded more than \$500M in energy savings contracts, and thus avoided utility costs to upgrade to more energy efficient systems in Navy and Marine Corps facilities.



YOU HAVE  
the POWER™

United States Department of the Navy  
Federal Energy Management Program

For more information on how you can get involved in the YOU HAVE the POWER campaign, visit the FEMP Web site at [www.navy.mil/femp/services/femp/](http://www.navy.mil/femp/services/femp/)







U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

## President Obama Signing E.O. 13514



*Signing of Executive Order 13514 –  
Federal Leadership in Environmental, Energy & Economic Performance*



- **Transformative shift in the way the government operates**
- **Establishes GHGs as the integrating metric for tracking progress in federal sustainability**
- **Requires a deliberative planning process**
- **Links goal achievement to budget allocations and OMB scorecards.**
- **Establishes numerous additional goals for federal agencies.**



- Does not repeal EO 13423 or EISA requirements

Agencies must:

- Conduct comprehensive GHG inventory
- Establish GHG reduction targets
- Reduce vehicle fleet petroleum use 30% by 2020
- Reduce potable water consumption by 26% 2020
- Reduce industrial, landscaping, & agricultural water consumption 20% by 2020



- Federal buildings which begin planning by 2020 must achieve zero-net energy by 2030
- Achieve 50% recycling & waste diversion by 2015
- Include sustainability requirements in 95% of all new contracts (Energy Star, EPEAT, FEMP etc.)
- Comply with new EPA storm water management guidance
- Pursue cost-effective & innovative strategies, such as highly reflective & vegetated roofs



## Agency GHG Milestones

Action	Due
Designate Agency Senior Sustainability Officer	11 November 2009
Complete Comprehensive GHG Inventory	4 January 2010
Submit Scope 1 & 2 Target Goals for 2020	4 January 2010
Submit Strategic Sustainability Performance Plan, with 2012 budget submission	2 June 2010





## Agency GHG Milestones

Action	Due
Submit Scope 3 reduction targets for 2020	2 June 2010
Submit to CEQ input on agency adaptation actions	5 October 2010
Complete Comprehensive 2010 GHG Inventory	1 January 2011



**Must be Identified by Nov 4, 2009**

**Responsible for:**

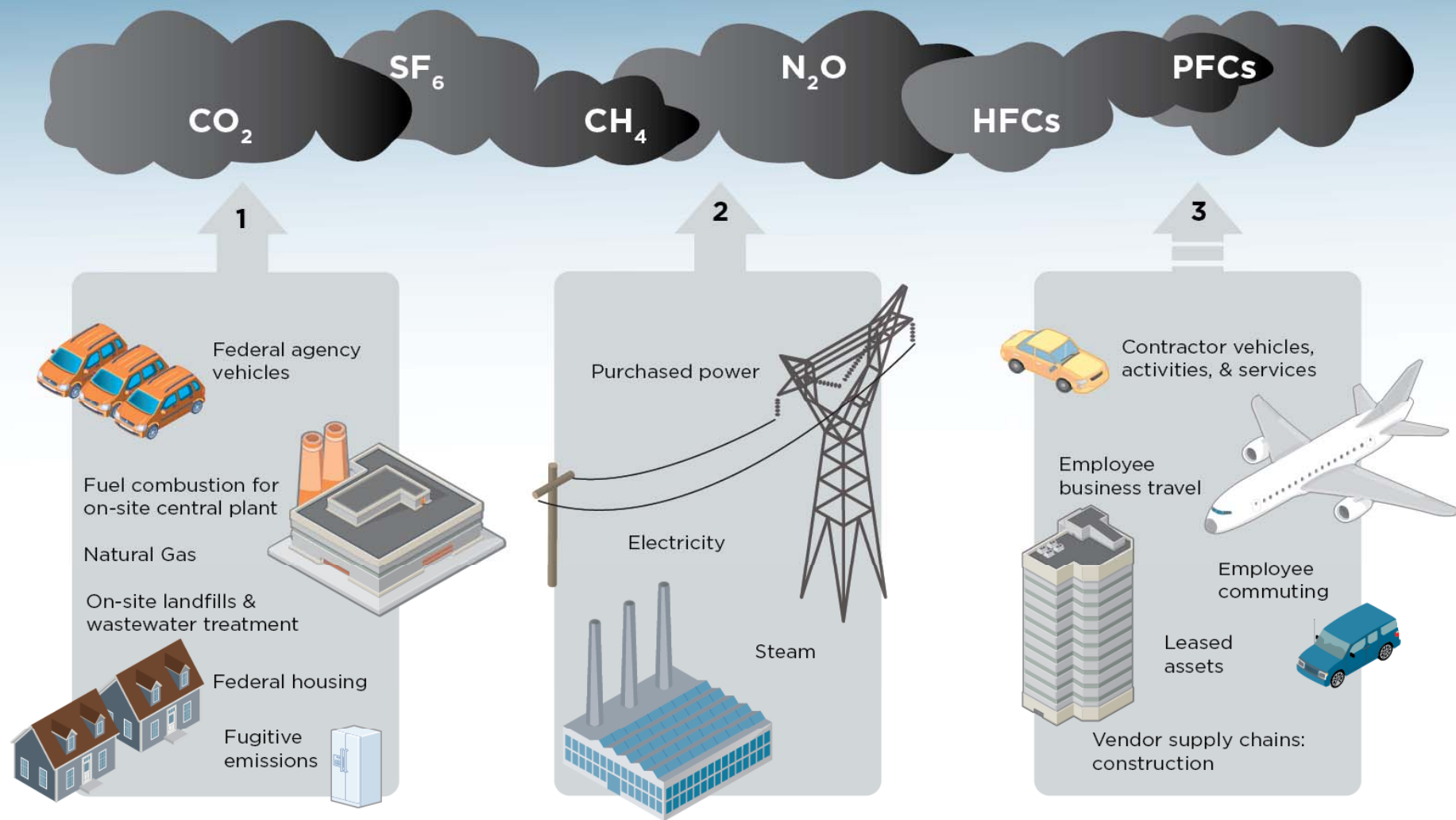
- Preparation of agency-wide GHG inventory
- Development of GHG reduction targets
- Preparation and implementation of *Strategic Sustainability Performance (SSP) Plan*
- Submission of SSP Plan to CEQ & OMB for approval
- Monitoring plan implementation
- Reporting progress to CEQ & OMB



## FEMP Specific Actions

Action	Due	Status
Develop GHG Targeting Tool	12 Oct 2009	COMPLETE
Submit GHG Reporting Guidance to CEQ	5 Apr 2010	“road testing” with agencies
Issue Fed Fleet Guidance	5 Apr 2010	Initial draft complete
Provide GHG Reporting Tool	5 Oct 2010	Work started
Support OFEE	Ongoing	

## Common Sources of Federal Greenhouse Gas Emissions



### SCOPE 1:

Greenhouse gas emissions from sources that are owned or controlled by a Federal agency.

### SCOPE 2:

Greenhouse gas emissions resulting from the generation of electricity, heat, or steam purchased by a Federal agency.

### SCOPE 3:

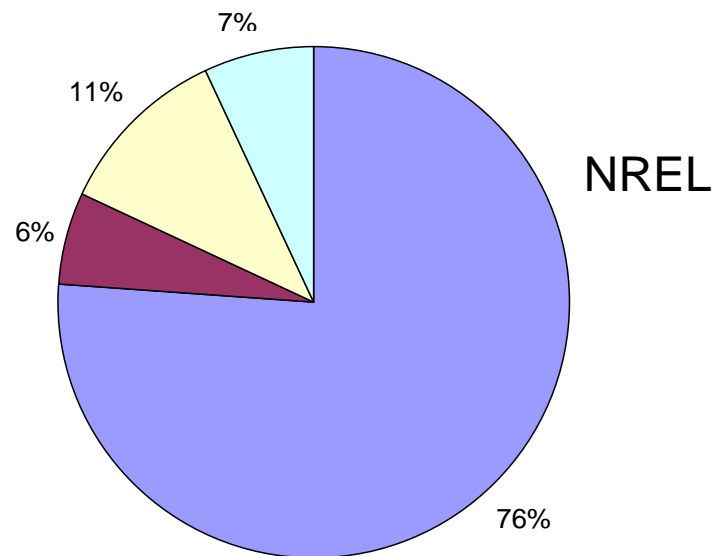
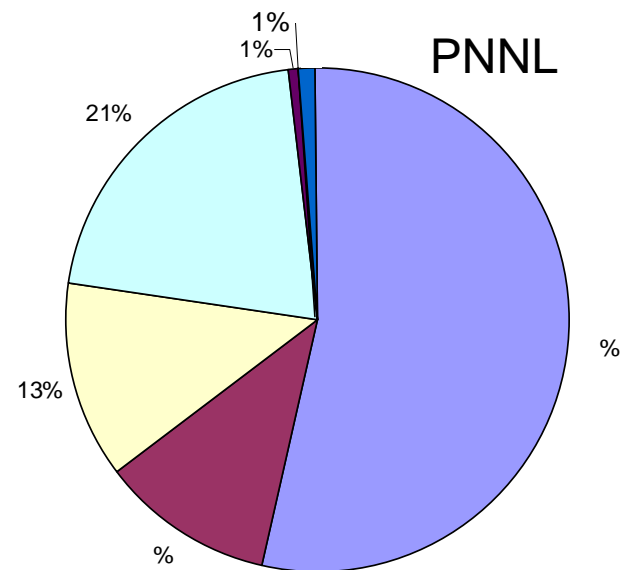
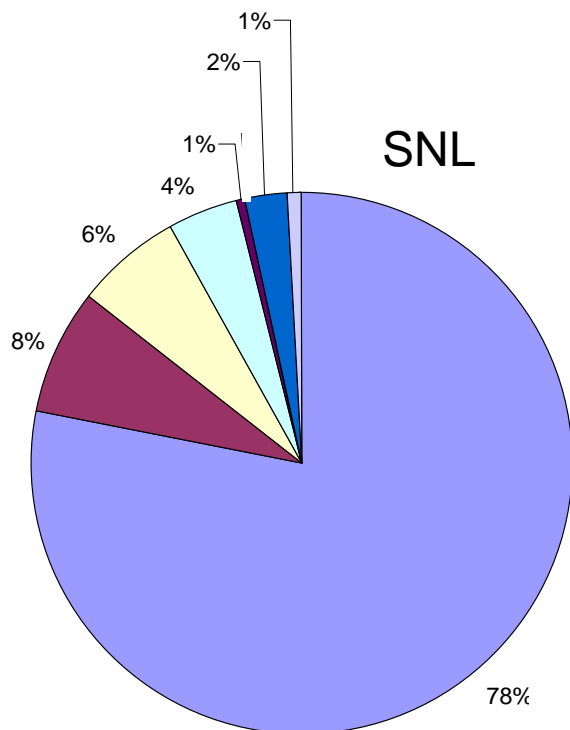
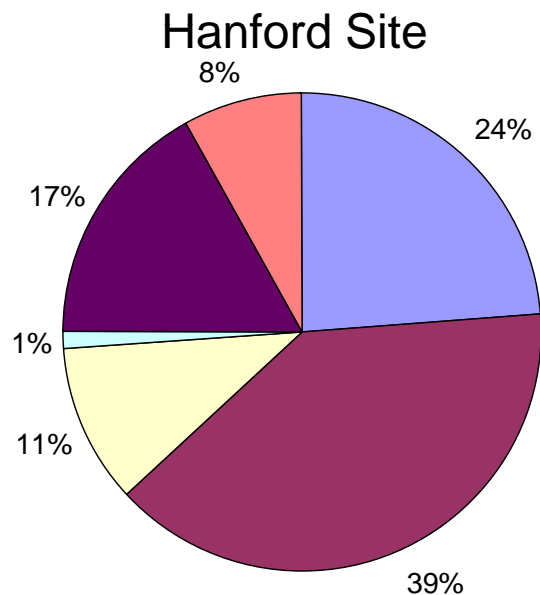
Greenhouse gas emissions from sources not owned or directly controlled by a Federal agency but related to agency activities, such as vendor supply chains, delivery services, and employee travel and commuting.



U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

## Bottom Up GHG Inventories at DOE Sites



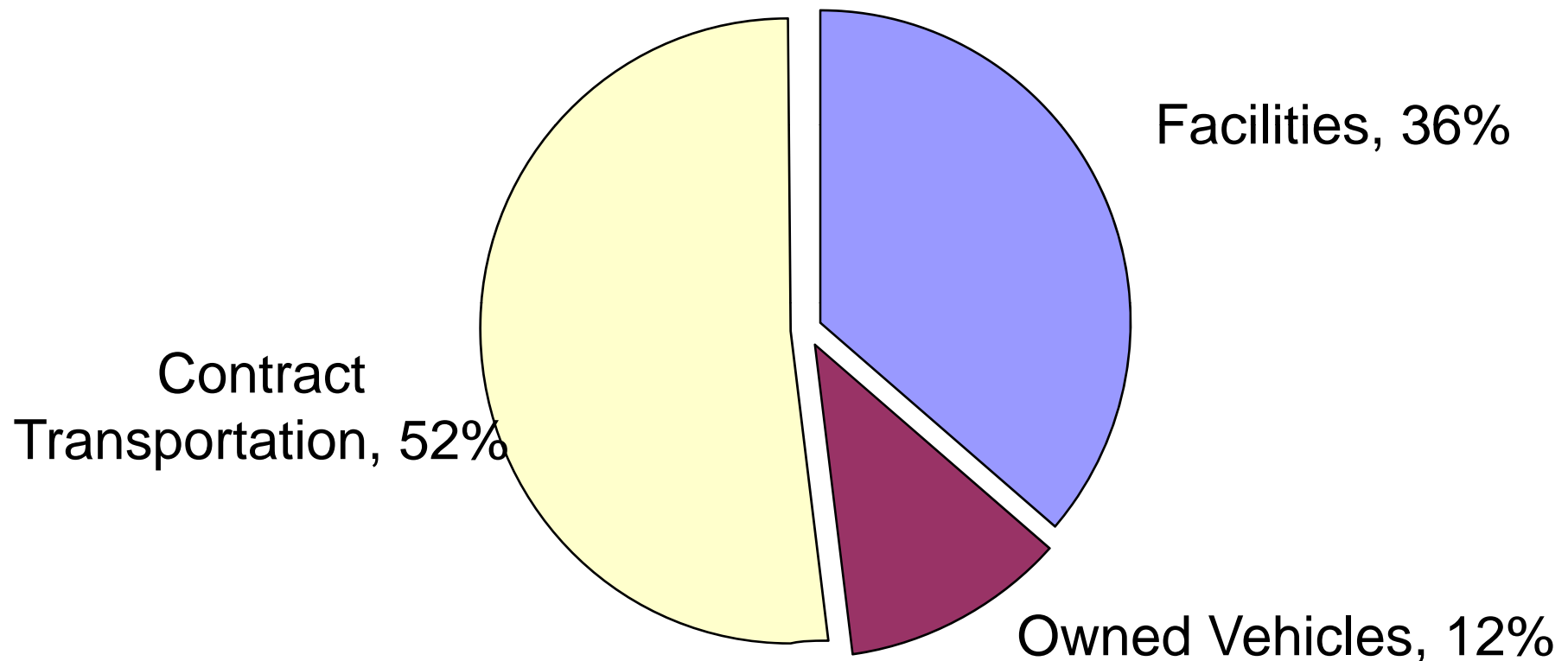




U.S. DEPARTMENT OF  
**ENERGY**

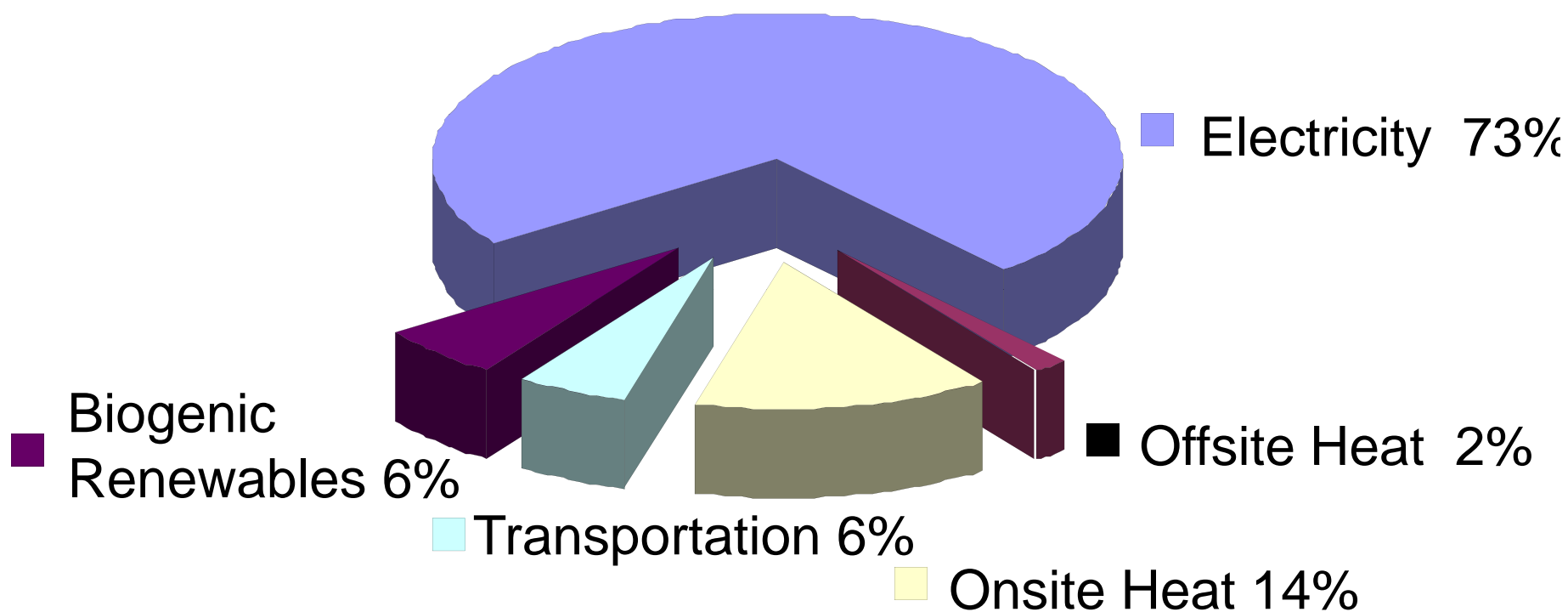
Energy Efficiency &  
Renewable Energy

# USPS FY07 GHG Inventory (11.2 M MTons CO<sub>2</sub>e)





## NASA FY08 GHG Inventory (1.16M MTons CO<sub>2</sub>e)





U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

# FEMP GHG Targeting Tool

Provides an estimate of current  
GHG Emissions

Produces performance based  
reduction targets

Provides a recommended format  
for GHG target submission and  
templates for calculations

Centralized location for accessing  
tools and templates  
([www.FedCenter.gov](http://www.FedCenter.gov))

For Help: Contact Leslie Gillespie-  
Marthaler (202) 456-5117

IE GHG Target Tool [Read-Only]

Insert Format Tools Data Window Help

70% Calibri 12 B I U

**AGENCY GREENHOUSE GAS REDUCTION TARGETING TOOL**  
**Detailed Energy and CO2 Data**

Agency: DOE Prepared by:   
Date:   
Phone:   
Reset % Inputs

**A** **B**

13423 ilities	FY 2008			FY 2015 Goals Met (EISA 30% reduction goal, 7.5% renewables, FY 2008 Fuel Mix)			Adjustments	
	Annual Consumption	Site-Delivered Btu (Billion)	Est. GHG Emissions (MTCO2e)	Annual Consumption	Site-Delivered Btu (Billion)	Est. GHG Emissions (MTCO2e)	Percent Change from Goals Met Projection (B)	Annual Consumption
	3,033,834.8	10,351.4	1,945,761	2,305,084.9	7,864.9	1,478,375	0%	2,305,084.9
	5,480.1	760.1	55,600	4,409.4	611.6	44,737	0%	4,409.4
Ublc Ft)	4,633,004.5	4,776.6	253,448	3,727,835.4	3,843.4	203,931	0%	3,727,835.4
Gal)	585.7	55.9	3,484	471.3	45.0	2,803	0%	471.3
	71,147.6	1,748.8	166,749	57,247.2	1,407.1	134,170	0%	57,247.2
Btu)	1,033.5	1,033.5	89,754	831.6	831.6	72,218	0%	831.6
	63.3	63.3	4,591	50.9	50.9	3,694	0%	50.9
H)	106,191.1	0.0	0	0.0	0.0	0	N/A	106,191.1
H)	73,904.4	252.2		158,261.2	540.0		0%	158,261.2
	36.9	36.9		36.9	36.9		0%	36.9
		19,676.7	2,519,387		15,231.4	1,939,929	0.0%	
Pross		97,720.7			97,720.7		0%	

13423 ed	FY 2008			FY 2015 Goals Met (Assumes 5% reduction from FY 2008)			Adjustments	
	Annual Consumption	Site-Delivered Btu (Billion)	Est. GHG Emissions (MTCO2e)	Annual Consumption	Site-Delivered Btu (Billion)	Est. GHG Emissions (MTCO2e)	Percent Change from Goals Met Projection (B)	Annual Consumption
	1,849,424.7	6,310.2	1,186,135	1,756,953.4	5,994.7	1,126,828	0%	1,756,953.4

Factors Base & Projections CO2 Summary Summary of Inputs Legend



Federal Energy Management Program

[femp.energy.gov](http://femp.energy.gov)



- This is the first step.
- Tools provided address only the 90-day requirement for establishing GHG reduction targets
- Tools are not intended to be used as a substitute for agency comprehensive GHG emissions inventories, and do not constitute Federal guidance.
- FEMP will coordinate this effort and development of other reporting requirements (e.g., GHG Management Guidance Group, Public Sector Protocol Road-Testing) with our agency representatives



- **Briefings and General information:**
  - **Public Sector Protocol (PSP)**
  - **PSP Road Test**
  - **GHG Guidance Development**
- **1-1 technical assistance**
- **Available Inventory Tools**
- **Reporting Tool**
- **Case study development**
- **Training (e.g. GovEnergy course)**
- **Coordination through emails, meetings, and:**
  - **FedCenter ([www.fedcenter.gov/ghgwg](http://www.fedcenter.gov/ghgwg))**
  - **Public Sector Protocol ([www.ghgprotocol.org/psp](http://www.ghgprotocol.org/psp))**





U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

# Resources Available on FEMP Website

**FEMP GHGs ([www.eere.energy.gov/femp/program/greenhousegases.html](http://www.eere.energy.gov/femp/program/greenhousegases.html))**

U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

## Federal Energy Management Program

About the Program Program Areas Laws & Regulations Information Resources Financing Mechanisms

### Program Areas

<b>Sustainable Buildings &amp; Campuses</b>	<h3>Greenhouse Gas Basics</h3> <p>Federal agencies must understand key terms and major emissions.</p> <p>Greenhouse gases are trace gases in the lower atmosphere that trap heat through a natural process called the "greenhouse effect." The greenhouse process keeps the planet warm and habitable. However, human activities are dramatically increasing GHG concentrations in the atmosphere, contributing to major shifts in the global climate.</p> <p>The information below outlines greenhouse gas basic categories:</p> <ul style="list-style-type: none"><li>• <a href="#">Types of Greenhouse Gases</a></li><li>• <a href="#">Climate Change</a></li><li>• <a href="#">Greenhouse Gas Management</a></li><li>• <a href="#">Related Links</a></li></ul> <h3>Types of Greenhouse Gases</h3> <p>Greenhouse gases are defined in two categories; natural and man made. Concentrations of naturally occurring</p>
<b>Greenhouse Gases</b>	
Basics	
Federal Requirements	
Guidance	
Technical Assistance & Training	
Resources	
Contacts	
<b>Water Efficiency</b>	
<b>Data Center Energy Efficiency</b>	
<b>Industrial Facilities</b>	
<b>Federal Fleet Management</b>	
<b>Laboratories for the 21st Century</b>	



Federal Energy Management Program

[femp.energy.gov](http://femp.energy.gov)



U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

More information

**Matt Gray**

Federal Energy Management Program

(202) 586-0067

[Matthew.Gray@ee.doe.gov](mailto:Matthew.Gray@ee.doe.gov)

[www.eere.energy.gov/femp/program/greenhousegases.html](http://www.eere.energy.gov/femp/program/greenhousegases.html)

[www.fedcenter.gov/programs/greenhouse/](http://www.fedcenter.gov/programs/greenhouse/)

[www.ghgprotocol.org/psp](http://www.ghgprotocol.org/psp)



**GovEnergy**  
[www.govenergy.gov](http://www.govenergy.gov)

**Save the Date!**

**DALLAS**

**August 15-18, 2010**

**Dallas Convention Center ★ Dallas, TX**



**David McAndrew**

Federal Energy Management Program

(202) 586-7722

*David.McAndrew@ee.doe.gov*